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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 104067 PJ/HA	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/FI 2003/000508	International filing date (day/month/year) 23-06-2003	Priority date (day/month/year) 24-06-2002
International Patent Classification (IPC) or national classification and IPC G02B 6/42		
Applicant Nokia Oyj et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 3 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. 1 and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
- This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand

19-01-2004

Date of completion of this report

28-07-2004

Name and mailing address of the IPEA/SE

Patent- och registreringsverket

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI 2003/000508

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

☒ the international application as originally filed/furnished

☐ the description: _____ as originally filed/furnished

pages _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims: _____ as originally filed/furnished

pages _____ as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings: _____ as originally filed/furnished

pages _____ received by this Authority on _____

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (specify): _____

☐ any table(s) related to the sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (specify): _____

☐ any table(s) related to the sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI 2003/000508

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-16</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>3-9, 11-16</u>	YES
	Claims	<u>1, 2, 10</u>	NO
Industrial applicability (IA)	Claims	<u>1-16</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Cited document D: US 5940564 A

Document D is cited as a document of the category "X" in the International Search Report.

Document D discloses an optoelectronic component 14, 52 and a support structure 66 having a hole, see especially figure 3. An alignment feature 62 is arranged on the surface of the component, and it is mentioned in the description that this feature may be any passive alignment feature known in the alignment art (col. 14, lines 16-20). The use of stud bumps as alignment feature, as defined in the independent claims 1 and 10 in the International Application, is deemed trivial. Document D discloses that the alignment feature is arranged along the periphery of the hole, thus aligning the component to the hole. Thus claims 1 and 10 are deemed to lack an inventive step.

It is evident from figure 3 in document D that the outer surface of the alignment feature is arranged against the hole walls. Thus claim 2 is deemed to lack an inventive step.

Document D does not give any indication that would lead a person skilled in the art to the method/arrangement defined in claims 3-9 and 11-16.

To summarize, the invention defined in claims 1-16 is novel and the invention defined in claims 3-9 and 11-16 is considered to involve an inventive step. The invention is industrially applicable.